

REMARKS

Applicants have amended claims 34 and have canceled claims 1-33 and 35-43 during prosecution of this application. Applicants are not conceding in this application that said amended and canceled claims are not patentable over the art cited by the Examiner, since the claim amendments and cancellations are only for facilitating expeditious prosecution of the patent application. Applicants respectfully reserve the right to pursue said amended and canceled claims, and other claims, in one or more continuations and/or divisional patent applications.

In a telephonic interview on May 23, 2007 between Applicants' Representative Jack P. Friedman and Examiner Wai Lun Leung, an amendment of claim 34 proposed by Applicants was discussed, and the Examiner advised Applicants' Representative that a further prior art search would be required with respect to the proposed amendment of claim 34.

A clean version of claim 34 is presented in Appendix A for the convenience of the Examiner.

Support in the specification and drawings for the amendment of claim 34 is presented *infra*.

The Examiner rejected claims 34 and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504A), in view of Maezawa *et al.* (US 6,145,024A).

The Examiner rejected claim 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,158,504A), in view of Maezawa *et al.* (US 5,145,024A) as discussed above regarding claim 34, and further in view of examiner's Official Notice.

The Examiner rejected claim 43 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504A), in view of Maezawa *et al.*, (US 6,145,024A), as applied to claim 34 above, and further in view of Chappel *et al.* (US 6,081,527A).

The Examiner rejected claim 37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504A), in view of Maezawa *et al.* (US 6,145,024A), as applied to claim 34 above, and further in view of Habbab *et al.* (US4,797,879).

The Examiner rejected claim 38-42 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US5,148,504A), in view of Maezawa *et al.* (US 6,145,024A), as applied to claim 34 above, and further in view of Wu *et al.* (US 5,946,116A).

Applicants respectfully traverse the § 103 rejections with arguments presented *infra*.

Support For Amendment of Claim 34

Subject matter added to claim 34 by amendment herein is supported in the specification and drawings as follows.

The following feature is described in Paragraphs 57-58: “performing a plurality of signal transmissions between cores of an integrated circuit, wherein each signal transmission is between two cores of a different pair of cores of the cores of the integrated circuit, wherein each signal transmission comprises a transmission of an optical signal in the visible or infrared portion of the electromagnetic spectrum at a wavelength that is specific to each different pair of cores and is a different wavelength for each different pair of cores and there is no overhead for decoding or arbitration in said performing the signal transmissions that would otherwise exist if a same wavelength for the optical signals were permitted for pairs of cores of the different pairs of cores”.

The following feature of the integrated circuit is shown in FIG. 10 and described in Paragraph 54: “multiple layers comprising a plurality of glass layers and a plurality of metal layers in an alternating pattern such that the glass layers and the metal layers alternate in direct mechanical contact with respect to each other”.

The following feature of the integrated circuit is shown in FIG. 11 and described in Paragraph 59: “a beveled edge adjacent to the multiple layers and oriented at an angle with respect to the multiple layers, ... a lower space below the multiple layers and below the beveled edge, said lower space bounded by a chip edge of the integrated circuit”.

The following feature is described in Paragraph 58: “wherein said performing the plurality of signal transmissions comprises performing a first signal transmission at a first wavelength in the visible or infrared portion of the electromagnetic spectrum and performing a second signal transmission at a second wavelength in the visible or infrared portion of the electromagnetic spectrum while the first signal transmission is being performed such that the second wavelength differs from the first wavelength”.

The following feature is shown in FIG. 10 and described in Paragraph 54:

“wherein said performing the first signal transmission comprises transmitting a first optical signal from a first optical transmitter attached to a first core of said cores to a first optical receiver attached to a second core of said cores over a first optical channel of the plurality of optical channels;

wherein the first optical transmitter is disposed within a first glass layer of the plurality of glass layers and the first optical receiver is disposed within a second glass layer of the plurality of glass layers such that the first and second glass layers are different glass layers;

wherein the first optical channel comprises a first segment of the first glass layer, a second segment of the second glass layer, a first light via disposed between the first segment and the second segment, a first redirection termination disposed between the first segment and the light via and having a shape for causing the first optical signal propagating in the first segment to be diverted into the first light via to propagate in the first light via, and a second redirection termination disposed between the first light via and the second segment and having a shape for causing the first optical signal exiting from the first light via to be diverted into the second segment to propagate only in the second glass layer to the first receiver”.

The following feature is shown in FIG. 11 and described in Paragraph 59: “wherein the method further comprises after the first optical signal is received by the first optical receiver: directing photons of the first optical signal away from the multiple layers and into the beveled edge and totally reflecting the photons from the beveled edge into the lower space and out of the integrated circuit through the chip edge, said angle being sufficient for said totally reflecting to occur”.

The following feature is described in Paragraph 54: “wherein optical fibers of the first glass layer, the second glass layer, and the first light via through which the first optical signal is transmitted consist of a same glass material”.

The following feature is shown in FIG. 10 and described in Paragraphs 54 and 56:

“wherein said performing the second signal transmission comprises transmitting a second optical signal from a second optical transmitter attached to a third core of said cores to each optical receiver of the plurality of optical receivers connected to a fourth core of said cores over a second optical channel of the plurality of optical channels;

wherein the second optical transmitter is disposed within a third glass layer of the plurality of glass layers and the plurality of optical receivers connected to the fourth core are disposed within different glass layers of the plurality of glass layers;

wherein the second optical channel comprises a third segment of the third glass layer, a second light via coupled to the third segment and extending to a fourth glass layer of the plurality of glass layers such that the third and fourth glass layers are different glass layers, a third redirection termination disposed between the third segment and the second light via and having a shape for causing the second optical signal propagating in the third segment to be diverted into the second light via to propagate in the second light via, and a fourth redirection termination disposed between the second light via and the fourth segment and having a spherical shape for causing the second optical signal exiting from the second light via to be dispersed so as to be detected by each optical receiver of the plurality of optical receivers connected to the fourth core”.

35 U.S.C. § 103(a): Claims 34 and 36

The Examiner rejected claims 34 and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504A), in view of Maezawa *et al.* (US 6,145,024A).

Since claim 36 has been canceled, the rejection of claim 36 under 35 U.S.C. § 103(a) is moot.

Applicants respectfully contend that claim 34 is not unpatentable over Levi in view of Maezawa, because Levi in view of Maezawa does not teach or suggest each and every feature of claim 34. For example Levi in view of Maezawa does not teach or suggest any of the features indicated *supra* in the section entitled “Support For Amendment of Claim 34”.

Based on the preceding arguments, Applicants respectfully maintain that claim 34 is not unpatentable over Levi in view of Maezawa, and that claim 34 is in condition for allowance.

35 U.S.C. § 103(a): Claims 35 and 37-43

The Examiner rejected claim 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,158,504A), in view of Maezawa *et al.* (US 5,145,024A) as discussed above regarding claim 34, and further in view of examiner's Official Notice.

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The Examiner rejected claim 37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504A), in view of Maezawa *et al.* (US 6,145,024A), as applied to claim 34 above, and further in view of Habbab *et al.* (US4,797,879).

The Examiner rejected claim 38-42 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US5,148,504A), in view of Maezawa *et al.* (US 6,145,024A), as applied to claim 34 above, and further in view of Wu *et al.* (US 5,946,116A).

Since claims 35 and 37-43 have been canceled, the rejection of claims 35 and 37-43 under 35 U.S.C. § 103(a) is moot.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456 (IBM).

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